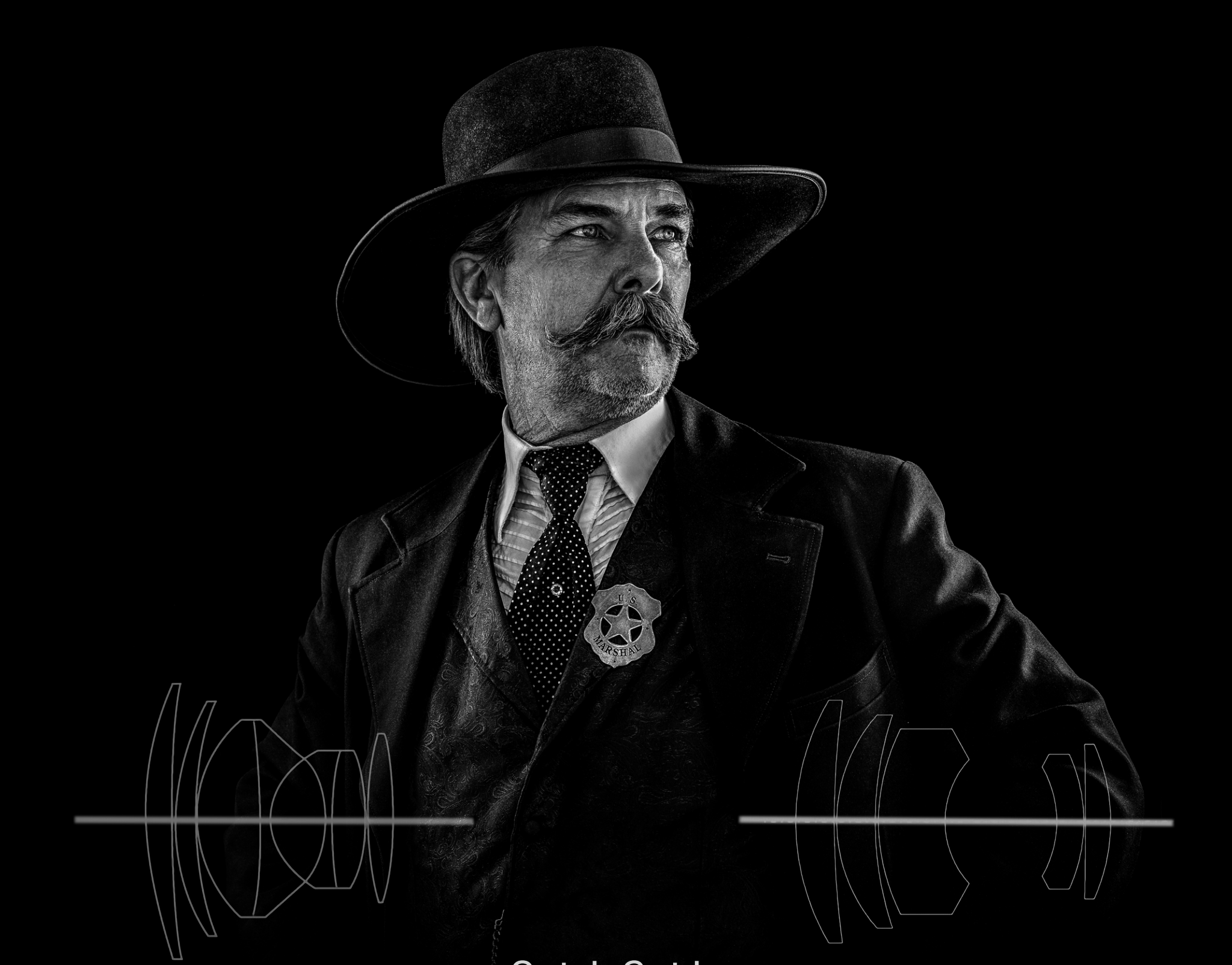


Quick Guide

CHOOSING
THE RIGHT LENS

JOEL GRIMES

Choosing The Right Lens

1 Objective: The purpose of this quick guide is to give you a go-to reference to occasionally check to keep your mind aware of these basic lens choices as it applies to the creative process. With time you will subconsciously, if not already, applying many of these basic ideas to your workflow.

2 Disclaimer: Keep in mind that I am giving you lens choice ideas based on forty-five years of experience and what fits me as an artist. You may scratch your head and completely disagree with my approach and choices, but it is always good to keep open-minded to new ideas. Since I am a Canon Explorer of Light Ambassador, I will be referring to the Canon lens lineup of lenses, but what is most important is understanding why I have chosen to use each lens.

3 You Are An Artist: In the end, your intuition is your greatest guide. You have to stick with what feels right to you and take the risk of breaking new ground. Your intuition may lead you down a path that may ruffle a few feathers. Don′ t give in to the critics; there′ s one around every corner.

4 Lens Categories: I have used a fair amount of lenses over the years, but for simplicity's sake, I thought it would be best to break down the different options with lenses I am most familiar with and use on a daily basis. I began as a Landscape photographer in college but have spent the last thirty-five years primarily shooting portraits in the commercial advertising marketplace. So I will mainly keep to these two related genres.

Helpful Terms and Definition

Aberration: As applied to photographic lenses, it refers to the optical degradation that results from setting your camera at its widest aperture. If you view the cross-section of a lens, you can see that the glass elements are designed with the greatest amount of curvature on the outside of the glass. When light passes through the glass, it is redirected as it makes contact with the curved elements. Modern lenses with computer design have drastically minimized the loss of quality shooting wide open, but it is essential to understand this effect.

Detraction: Refers to the optical degradation that results from setting your camera at its smallest aperture. When light passes through the lens and comes in contact with the edge of the aperture blades, the light will bounce or scatter, causing an overall loss of sharpness and quality to your image. It is best to avoid setting our aperture smaller than f/10 unless you have no other choice.

Sweet-Spot of the Lens: This term refers to setting your aperture at 2-3 stops from wide open, giving you the best optical performance. Depending on the lens you are using, the "Sweet Spot" falls around f/5.6 to f/8. You can quickly test this to find out where that sweet spot falls on your lenses. Set your aperture at wide open and shoot a scene, then set your aperture to the sweet spot of your lens at f/8 and at then at the smallest aperture (f/22-32) and review the results.

Camera Shake: During my first photography class in college, my teacher made this statement that I will never forget: If you take the most expensive lens money can buy, and set the f/stop at its widest aperture, and handhold it at, say 1/100th, then take an inexpensive kit lens, set the aperture at f/8 using a tripod, then take a picture and the less expensive lens will outperform the more expensive lens. The laws of optics are universal. The single greatest cause of poor optical quality is camera shake. I will address the new Images Stabilization technology later in my End Notes.

Prime Lenses: You may have heard the term Prime Lenses. Generally, this refers to a fixed focal length lens. It also may refer to a camera or lens manufactures top of the line quality lenses. Often these lenses produce the widest aperture in their line of lenses, say f/1.2 or 1.4. Keep in mind if you shoot at an f/8 aperture or the Sweet Spot of the Lens, it is next to impossible to see the optical quality difference between a costly prime lens versus a less expensive or kit lens. If you seldom shoot at, say, f/1.2, then you don't need an expensive prime lens.

Environmental Portraits

Environmental Portraits are one of my favorite approaches to shooting portraits. It is here that I want to start. I am driven by creating portraits that make my subjects look larger-than-life with a touch of fantasy. I love the super-hero movie poster feel. Choosing the right lens is very much a part of my creative process. Placing your subject in the right background can make or break the success of an image. I like the challenge of building that relationship between the subject and the environment but always keeping the subject the central focus.

The wider your lens choice, the greater your risk producing unwanted distortion. I often refer to it as a stretched or forced perspective. I like using this forced perspective to my advantage. It gives the viewer a vantage point they don't see with their natural eye. This is important because I am not trying to replicate reality (which is impossible) but take my audience into a world they don't see every day. A successful image uses emotions to win over your viewers; use every tool at your disposal. This is why it is essential to learn how to choose the right lens.

Close Up Portraits - 24mm Lens

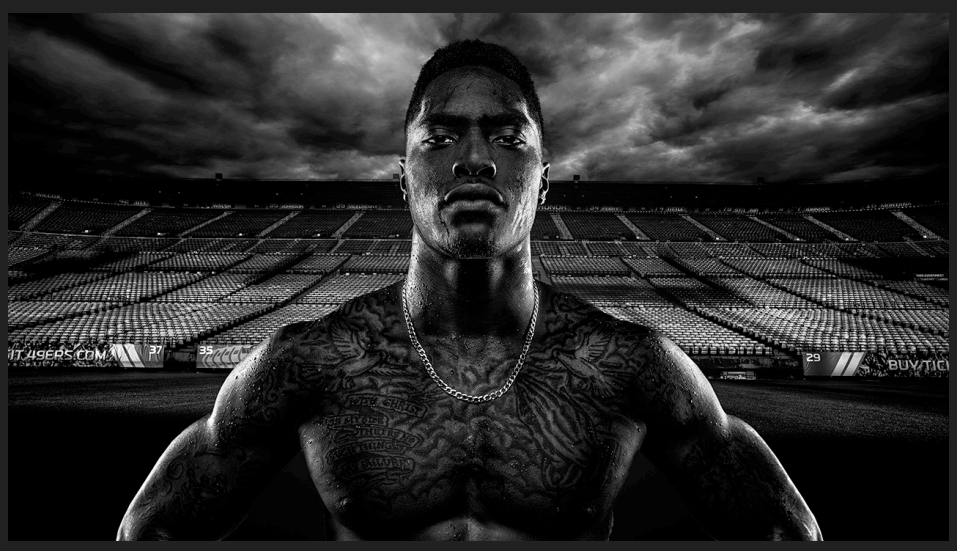
When we look at what I call the "Traditional Approach" to photography, we are often taught things like; the perfect portrait lens falls between a 50mm to 100mm focal length (35mm equivalent). There is some truth in that, but in some ways, it is just a starting point where, eventually, you have to follow your intuition and make choices that fit your creative vision.

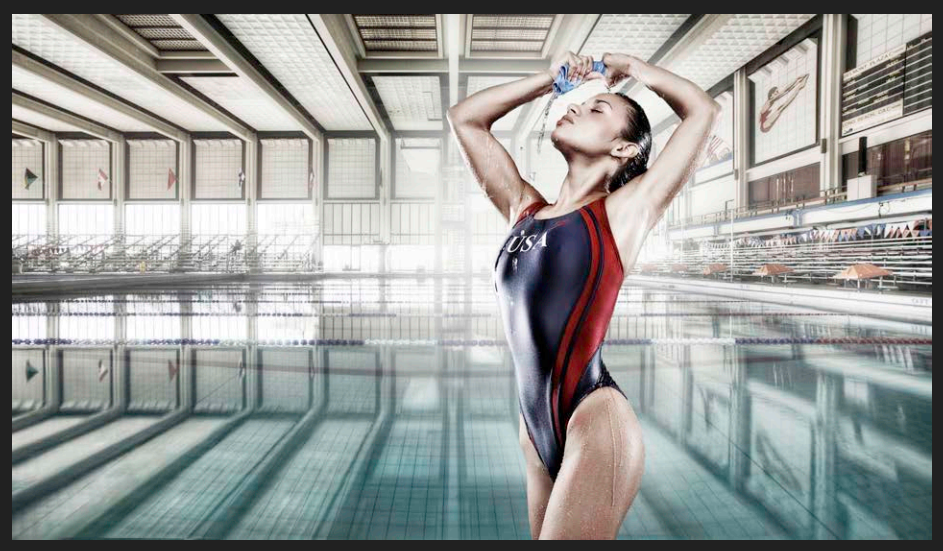
In my case, when it came to choosing a portrait lens, I soon discovered that I kept choosing the 24mm focal length (which is 84 degrees angle of view) over and over for my environmental portraits. The 24mm lens focal length seems to place the subject into the environment perfectly. The optimum working distance from my camera to my subjects appears to be around 2.5 to 3 feet. If you get too close, then the distortion starts to elongate the nose, arms, etc.

Tech Info: Shot with the Canon RF 24-70mm 2.8 Lens at the 24mm Focal Length. I used Cross Light with two Westcott FJ 400 in one Westcott 3x4 Soft Box for my lighting. 1/200, f/11 ASO 100 (FYI- In my Dramatic Portrait Masterclass, I show how I created this image from start to finish)

Additional Examples

Close Up Portraits - 24mm Lens





Full Length Portraits - 24mm Lens

The 24mm Focal Length lens is also my go-to choice for full-length environmental portraits. One additional factor I think about when choosing a lens is that, as a general rule, a 24-70mm 2.8 lens will optically slightly outperform a 16-35mm 2.8 lens. The good news for this type of scenario is that you don′ t have to worry about too much unwanted distortion. It is just the nature of optics; the wider the lens, the greater the difficulty minimizing optical anomalies. As a result, if I know I will end up with a 24mm focal length, I will choose my 24-70mm 2.8 over the 16-35mm 2.8. However, today′ s modern lens design and performance are getting better and better every year. Recently I have been using the new Canon RF 15-35mm 2.8 with excellent results.

Tech Info: Shot with the Canon RF 24-70mm 2.8 Lens at the 24mm Focal Length. I used Cross Light with one PCB Einstein in one Westcott 3x4 Soft Box for my lighting. 1/200, f/11 ASO 100

Additional Examples

Full Length Portraits - 24mm Lens

Using a 24mm Tilt Shift Lens

The 24mm Focal Length Tilt-Shift lens is a specialty lens that produces an oversize image circle, allowing you to either shift from side to side, up or down or tilt the lens to change the angle of the image plane. It sounds a bit complicated, but a TS Lens mimics what you can do with a view camera, but there is no bellows in this case. It is an engineering marvel, and I use TS lenses all the time for two primary reasons.

First, it allows me to increase the final size of my image capture. With my current Canon EOS R5, which produces a 45-megapixel capture, if I snap three vertical images and move the lens from left, middle, and right, I ended up with a 120-megapixel image after stitching them together in Photoshop.

Second, in the case of using a 24mm TS lens, this will give me 24mm perspective, but by increasing the image canvas size, I get a wider angle of view (around a 16mm equivalent when using the 24mm TS lens) while still maintaining the 24mm perspective. This means I have less distortion but get a much wide angle of view. Also, the foreground to background relationship increases the wider the lens, so if in the case of the two Firefighters shown above, if I had used a 16mm lens, the subject in the background would be farther away. I also shift the lens in the horizontal position both left and right to give me a beautiful panoramic cinematic orientation.

Tech Info: Shot with the Canon 5DSR 24mm Tilt-Shift 2.8 Lens. For my lighting, I used Westcott FJ 400 strobes in two Westcott 3x4 Soft Box for my edge light and one 24 inch Beauty Dish over the camera. 1/200, f/11 ASO 100

Additional Examples

24mm Tilt Shift Lens

Bonus Tip

24mm Tilt Shift Lens

One additional benefit of using the 24mm Tilt-Shift lens: While shooting an ad campaign for Fiat Chrysler Automotive, the Art Director requested several cropping scenarios for each shot. Because I was shooting a total of nine frames per shot, three frames for HDR, multiple background plates to remove my strobe light, this would become very labor and time-consuming later in post-processing. So instead of creating a complete set of images for both the horizontal and vertical orientations, I used my 24mm TS lens shifting it left and right, and up and down, covering all the bases.

In addition, the final retouch produced a 200 plus megapixel capture, giving the AD plenty of resolution for all his output needs. The Art direct could now crop for magazine print ads, billboards, etc., and I only needed to retouch one final image per ad. For those interested, I demonstrate how I create an image like this in my Complete Bundle Masterclass under the Retouch Section.

35mm 1.4 Lens Shallow DOF

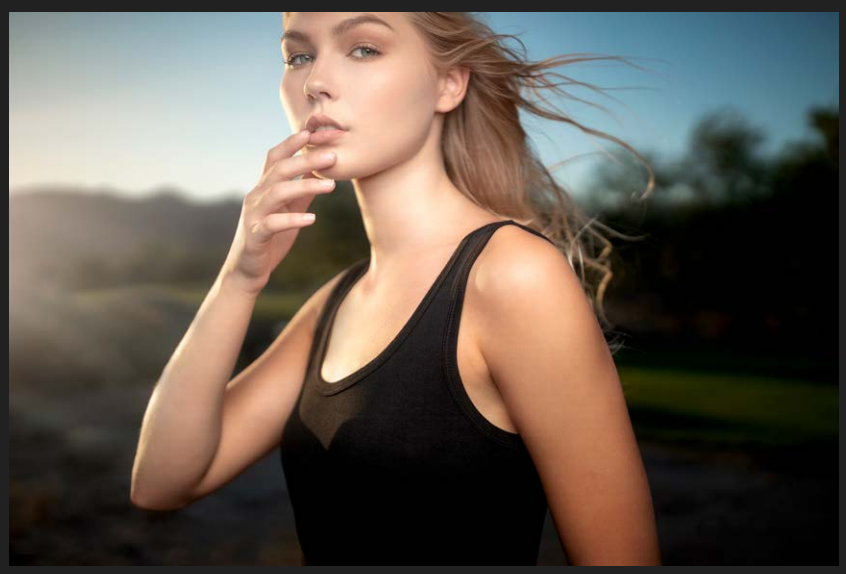
Another lens I love is the Canon EF 35mm 1.4. Most of us might not consider using a 35mm lens to create a creamy, soft shallow depth of field portraits. If you set your aperture at the maximum f/1.4, I find the results absolutely amazing. The key is to move in about two to three feet from your subject. True, this will produce a slight bit of distortion but works to my advantage by drawing the subject into the viewer.

The key to using this lens is allowing the environment to surround your subject. It doesn't work for every scenario, but when used properly, I feel it is magical and fits my vision as an Artist when it works. I think it is worth at least considering this approach. If you don't own a 35mm 1.2 or 1.4 lens, it might be wise to rent one first before actually purchasing it. There are several photo gear rental outfits that will send the lens right to your doorstep. www.LensRental.com, www.Borrowlenses.com are a few that come to mind.

Tech Info: Shot with the Canon 5DSR and the Canon EF 35mm 1.4 Lens. For my lighting, I used Westcott one FJ 400 Strobe set in High-Speed Sync, in one Westcott 24 inch Beauty Dish over the camera. 1/6000, f1.4, ASO 100

Additional Examples

35mm 1.4 Lens Shallow DOF



50mm 1.2 Lens - Shallow DOF

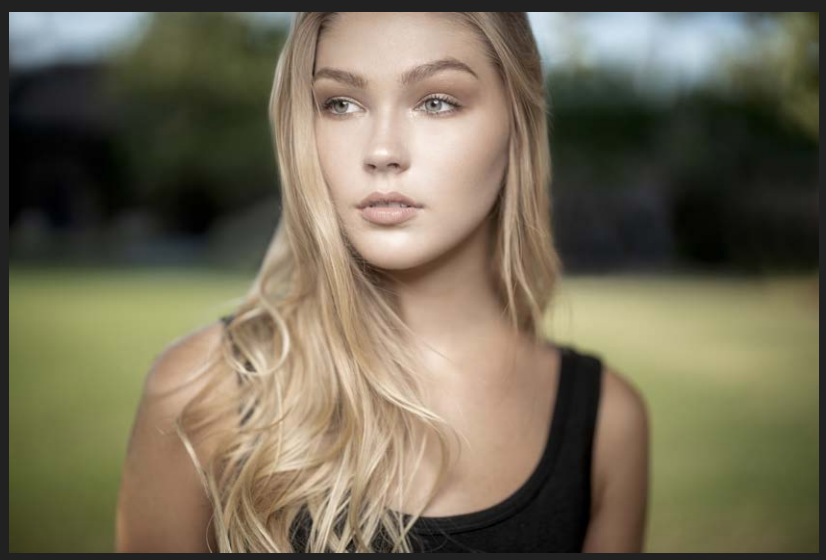
At 19 years old, I purchased my first 35mm SLR camera. I worked two jobs all summer at $3.25 an hour to save enough money to make that purchase. It turns out I drove a $300 car and had a $350 camera hanging around my neck. Oh, did I think I was hot stuff. It was an all-black Canon EF and came with a 50mm 1.8 lens. Most cameras sold at that time came standard with a 50mm lens. Before long, I purchase a Canon 24mm f/2.8, 35mm f/2, and a 135mm f/3.5 lenses. For years I sort of neglected the 50mm. It seemed too normal at the time, partly because I was shooting all landscape images, and fell in love with the 24mm wide-angle focal length. Years later, I picked up the Canon EF 50mm 1.4 and tried using it for portraits, but I always had issues with the autofocus and lost confidence in using it at the f/1.4 aperture.

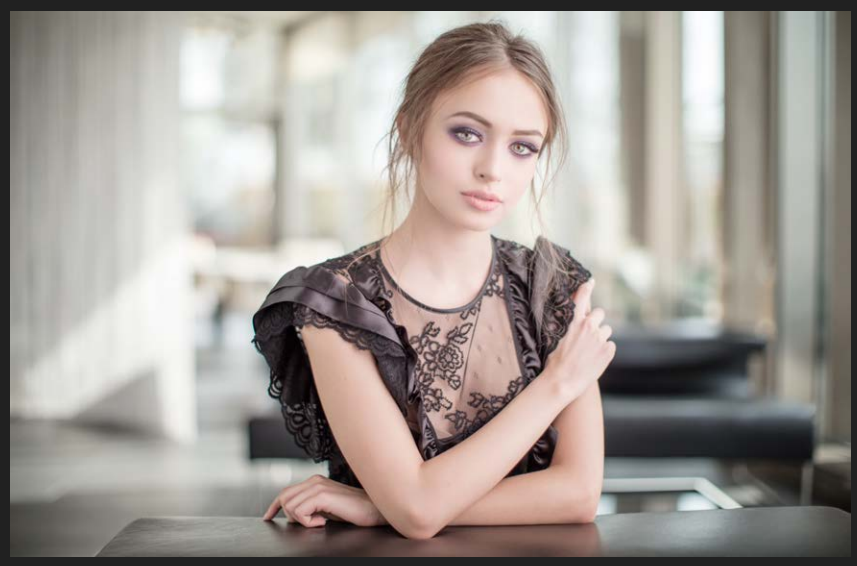
When Canon released the new EOS R mirrorless system incorporating the advanced Eye Tracking technology, everything changed. I could trust the autofocus system for the first time, giving me a whole new approach to shooting ultra-shallow-depth-of-field portraits. This lead me to the discovery of Canon's new RF 50mm 1.2 lens. To say this was a game-changer is an understatement. In addition to the recent focus technology, this lens is ultra-sharp at wide open with no noticeable aberration. (We have talked briefly about the issue of aberration when shooting at wide open.) If you photograph a subject around the waist up, setting your aperture at f/1.4, the background has the most beautiful soft creamy bokeh. I am in love with this lens.

Tech Info: Shot with the Canon EOS R and the Canon RF 50mm f/1.2 Lens. I used one Westcott FJ 400 strobe for my lighting in HSS mode, in a 24 inch Beauty Dish over the camera. 1/8000, f/1.2, ASO 100

Additional Examples

50mm 1.2 Lens - Shallow DOF





85mm 1.2 Lens - Shallow DOF

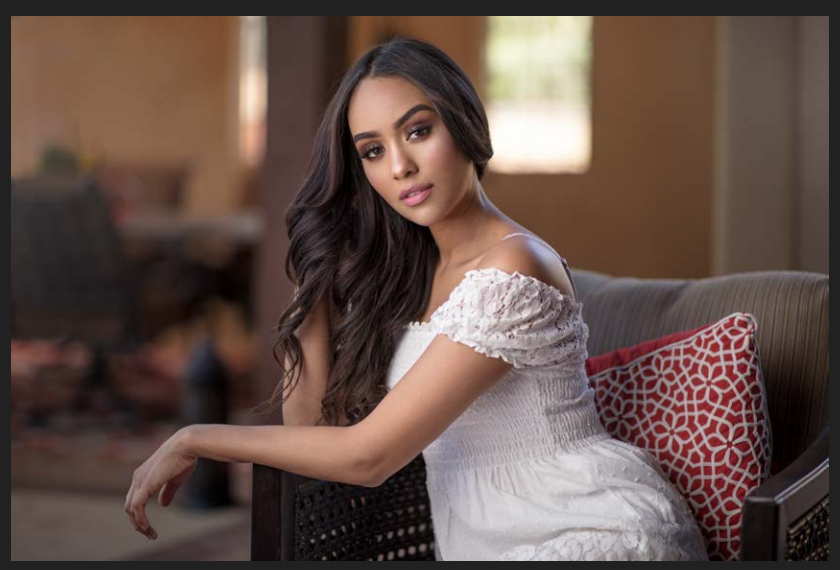
The 85mm 1.2 Lens has long been a standard choice for shooting ultra-shallow depth-of-field beauty portraits. Even when you frame your subjects at full length, this lens at the f1.2 aperture can give a remarkable bokeh effect. If you move in closer to your subject, the bokeh effect increase significantly. The Canon RF 85mm f/1.2 lens is about twice the size and weight of the Canon RF 50mm f/1.2. For that reason, I tend to carry the 50mm 1.2 over the other. However, each lens has its purpose and creative look, so I would rent the two lenses before purchasing.

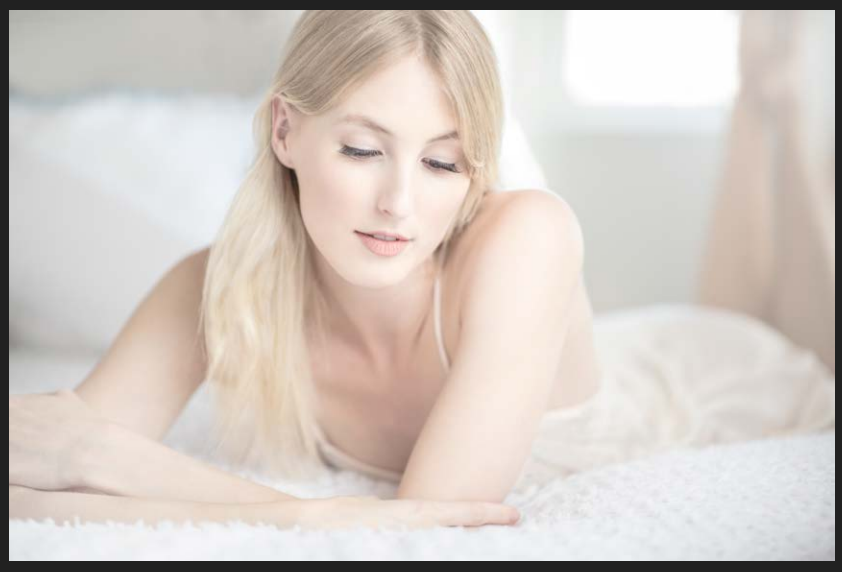
On a side note, it is beneficial to download a Depth of Field App on your Smart Phone. I use Simple DOF. I like to see what the distance and aperture combination will be to achieve one inch of DOF.

Tech Info: Shot with the Canon EOS R and the Canon RF 85mm f/1.2 Lens. I used one Westcott FJ 400 strobe for my lighting in HSS mode, in a 24 inch Beauty Dish over the camera. 1/1000, f/1.2, ASO 100

Additional Examples

85mm 1.2 Lens - Shallow DOF





The Workhorse - 70-200mm 2.8 Lens

The 70-200mm f/2.8 lens is one of those lenses that has proven to be a must-have for any working photographer. It was one of the first zoom lenses I owned; back when zoom lenses were not of the quality, they are today. With each generation of optical advancement, this lens has become the gold standard in optical performance. I often use this lens at the 200mm focal length, with an f/2.8 aperture, resulting in an ultra-shallow depth-of-field, as seen in the example above.

The current Canon RF 200mm f/2.8 is a very light and compact design making it easy to carry around on photo shoots. If I could only carry three lenses, I would choose the Canon's RF Trinity setup; the 15-35mm f/2.8, 24-70mm f/2.8, and the 70-200mm f/2.8. This set of lenses pretty much covers everything. Well, I might throw in my RF 50mm f/1.2 and my EF 24mm TS lens. LOL, it's hard to carry just three lenses.

Tech Info: Shot with the Canon 5DSR and the Canon EF 70-70mm 2.8 Lens. For my lighting, I used one Westcott FJ 400 strobes in HSS mode, with a Westcott 3x4 Soft Box to create beautiful cross light. 1/6000, f/2.8 ASO 100

Additional Examples

70-200mm 2.8

Workhorse - 24-70mm 2.8 Lens

The one lens that I probably use the most is the Canon 24-70mm 2.8. As we have already discussed, I love the 24mm focal length for my portrait work. The 24-70mm range works great for a good portion of my where I might want to end up, and the versatility of the zoom makes composing my shot a breeze. The optical performance of both the Canon EF and RF 24-70mm lenses is beyond amazing.

One question I get asked a lot is, what is the optical quality between an f/2.8 lens and an f/4 lens. I can't speak for every lens manufactures lineup, but if you shoot at around f/7.1 or f/8, as I often do in the studio, you will not see a difference. A good option would be to get a less expensive mid-range f/4 lens and then pick up a fixed prime f/1.4 or f/1.2 lens for when you want that ultra-shallow depth-of-field.

Tech Info: Shot with the Canon EOS R and the Canon RF 24-70mm f/2.8 Lens at the 24mm focal length. For my lighting, I used six Westcott FJ 400 strobes in several different modifiers and shot in four separate plates to remove the lights. 1/30th, f/10, ASO 100

Additional Examples

24-70mm2.8

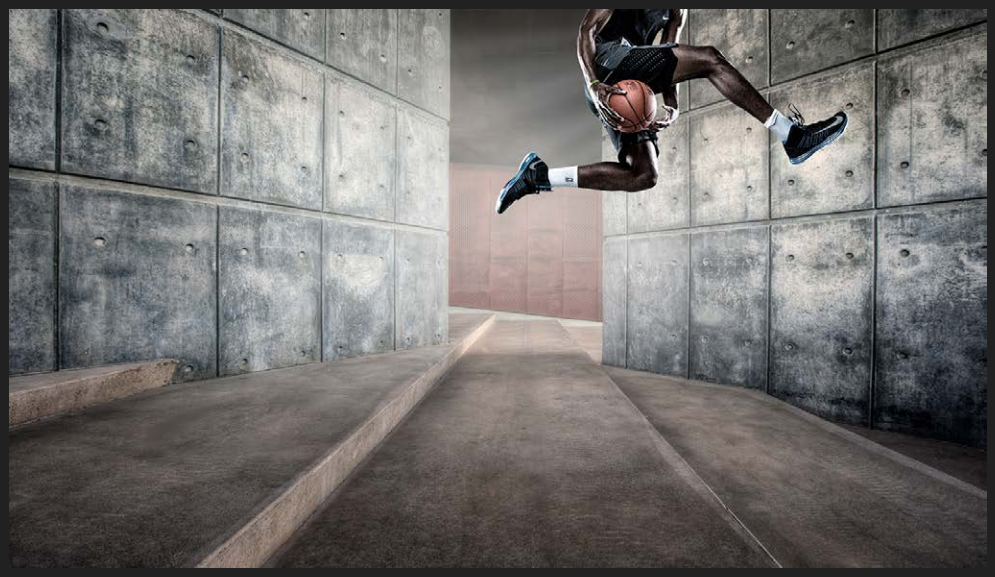
Workhorse - 16-35mm 2.8 Lens

Another must-have lens for me is the 16-35mm f/2.8 lens. In the new line of Canon RF lenses, it is now 15-35mm, but it is technically the same range of focal length. There are also some fantastic f/4 versions of this range. Before I started using Tilt-Shift Lenses, ninety-nine percent of the background images I used in my composites were shot with this lens, almost always at the 16mm focal length. I still love this focal length range and also use this lens for much of my landscape work. Keep in mind that many of these lenses now come with image stabilization. If your lens manufacture offers this lens in an f/4 version, that might be a good consideration.

Tech Info: Shot with the Canon 5DSR, RF 16-35mm 2.8 Lens. For my lighting, I used three PCF Einstein strobes in two Westcott 3x4 Soft Box for my edge light and one 24 inch Beauty Dish over the camera. 1/200, f/5.6 ASO 400

Additional Examples

16-35mm 2.8



17mm Tilt Shift Lens

The Canon EF 17mm f/4 Lens is more vertical that you might think. We have covered a few other Tilt-Shift lenses already, but the 17mm is quite a unique lens that is one of my go-to lenses when shooting landscapes or background plates for my composites. Architectural photographers primarily use this lens for perspective control, similar to a large-format view camera back in the good old days of film. In addition to shifting the lens side to side or up and down, you can tilt the lens to change your focus plane to gain more depth of field. The one main drawback to this lens is that you cannot screw standard filters on the front element like you can with most lenses.

I have purchased a special 10 ND filter by FotodioX that will allow me to create long exposures in bright lighting conditions. However, the new mirrorless Canon R system now has an EF to R lens adapter with a built-in filter holder that solves this issue.

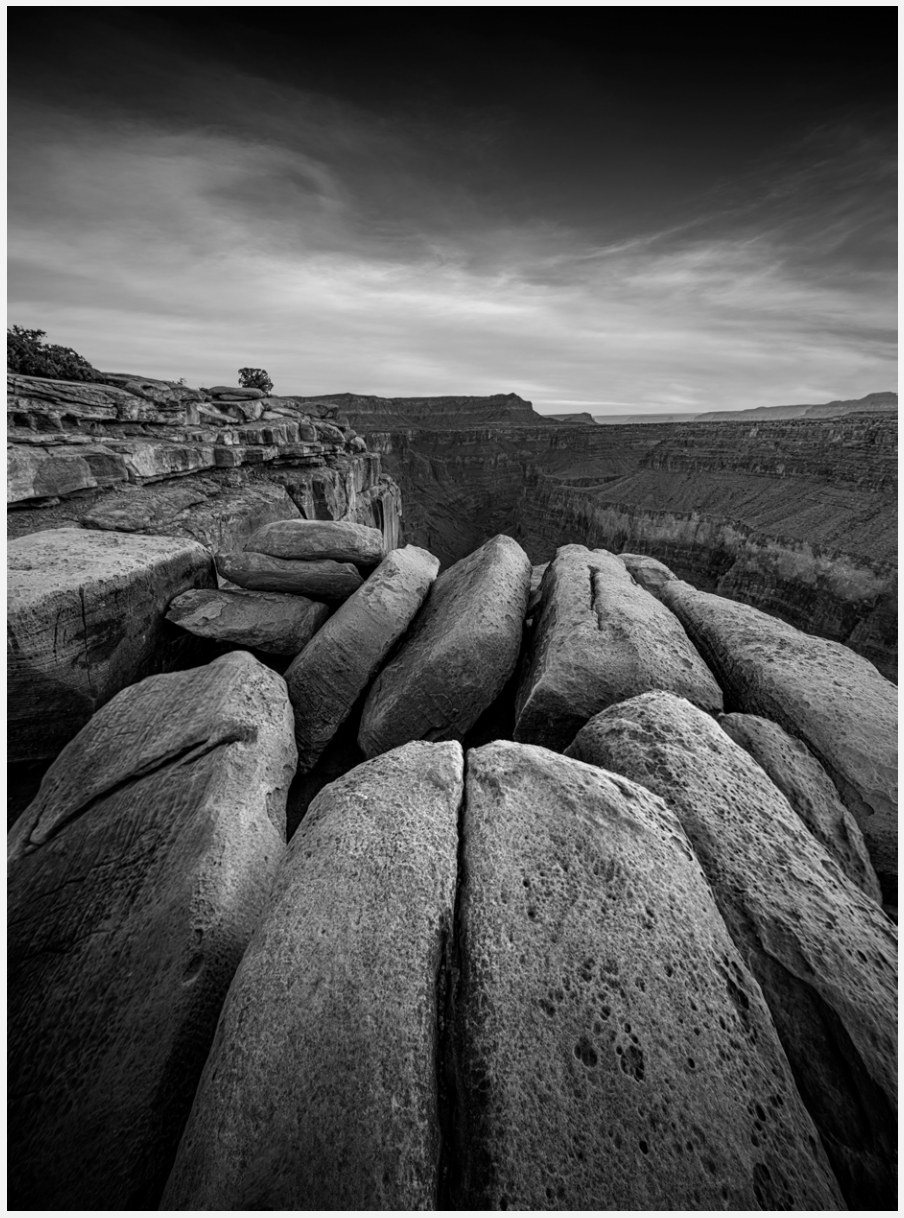
Tech Info: Shot with the Canon 5DSR 24mm Tilt-Shift 2.8 Lens. For my lighting, I used Westcott FJ 400 strobes in two Westcott 3x4 Soft Box for my edge light and one 24 inch Beauty Dish over the camera. 1/200, f/11 ASO 100

Additional Examples

17mm Tilt Shift Lens

Bonus Tip

17mm Tilt Shift Lens



Pushing the creative options using the 17mm Tilt-Shift lens: In addition to shifting my TS lens vertically (Left to right) to create a horizontal cinematic panorama, I can also shift the lens in three different positions in the horizontal orientation to make a final vertical image. This approach gives me three main added benefits. (I can also do this with the camera in the vertical orientation, but shifting side to side horizontally)

First, I can refocus at each position as you shift from top to bottom to ensure that your image is perfectly in focus from near too far.

Second, you can also increase your final megapixels by around 2.5 times, giving you a huge file to print stunning fine art prints. With my current Canon EOS R5 45 megapixel camera, I will end up with a 120-megapixel capture when I stitch them together in Photoshop.

And third, with a 17mm TS lens, I get around a 10-11mm angle of view without the distortion you might get a lens that wide.

Final Notes 1

Putting Things Into Perspective

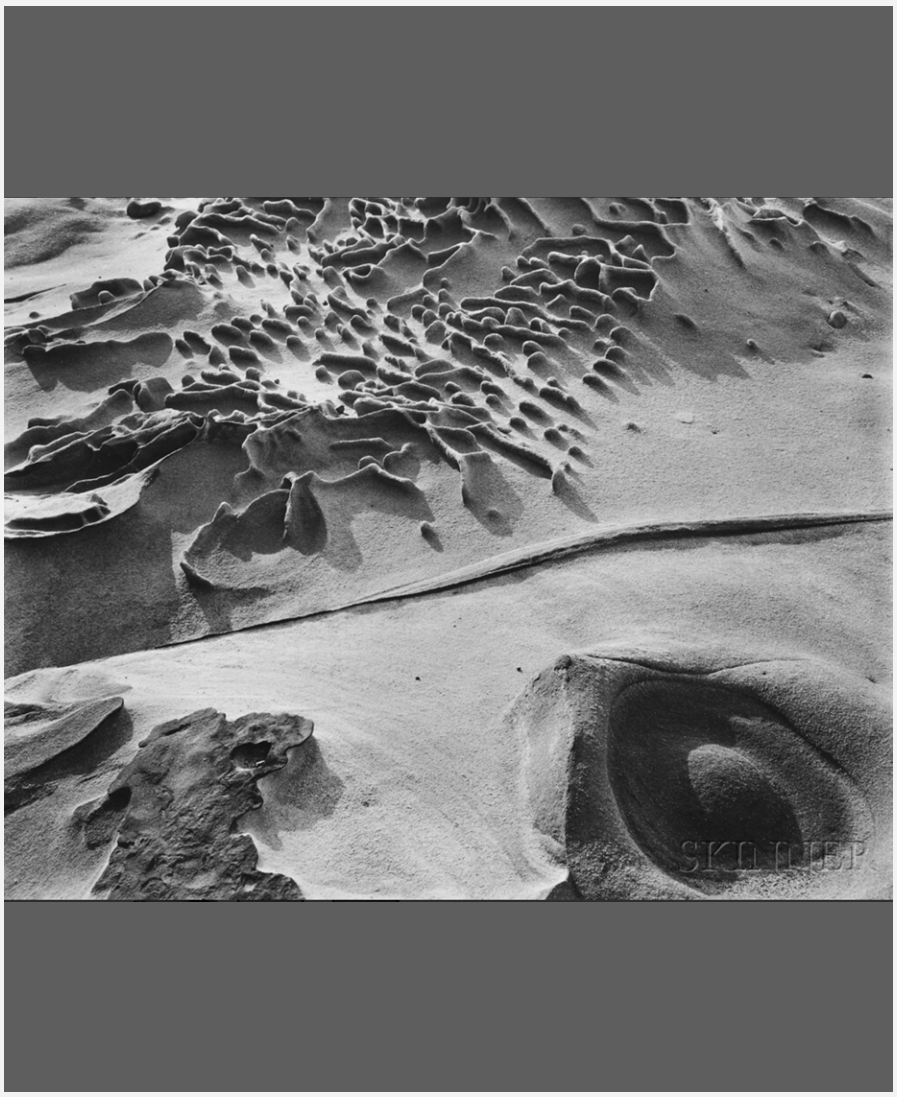


Image by Edward Weston

A look back in history: We are in the most remarkable age of photography. The tools we have to create images today at our disposal are mind-blowing. A few years ago, I was photographing landscape images in Point Lobos State Park just south of Carmel, California. I was standing in Weston Cove, named after the master photographer Edward Weston. I had studied Weston's work in Art school and had a vague memory of his images from Point Lobos and was thrilled to be standing right where he stood some 70 plus years earlier. At that time in Edward's career, he used a large-format 8x10 view camera. having used a large-format camera for many years myself and working with a 4x5 view camera, I have a sympathetic understanding of what Edward went through to create his images. (You can see those images on www.portfolio.joelgrimes.com under Type 55 Portraits)

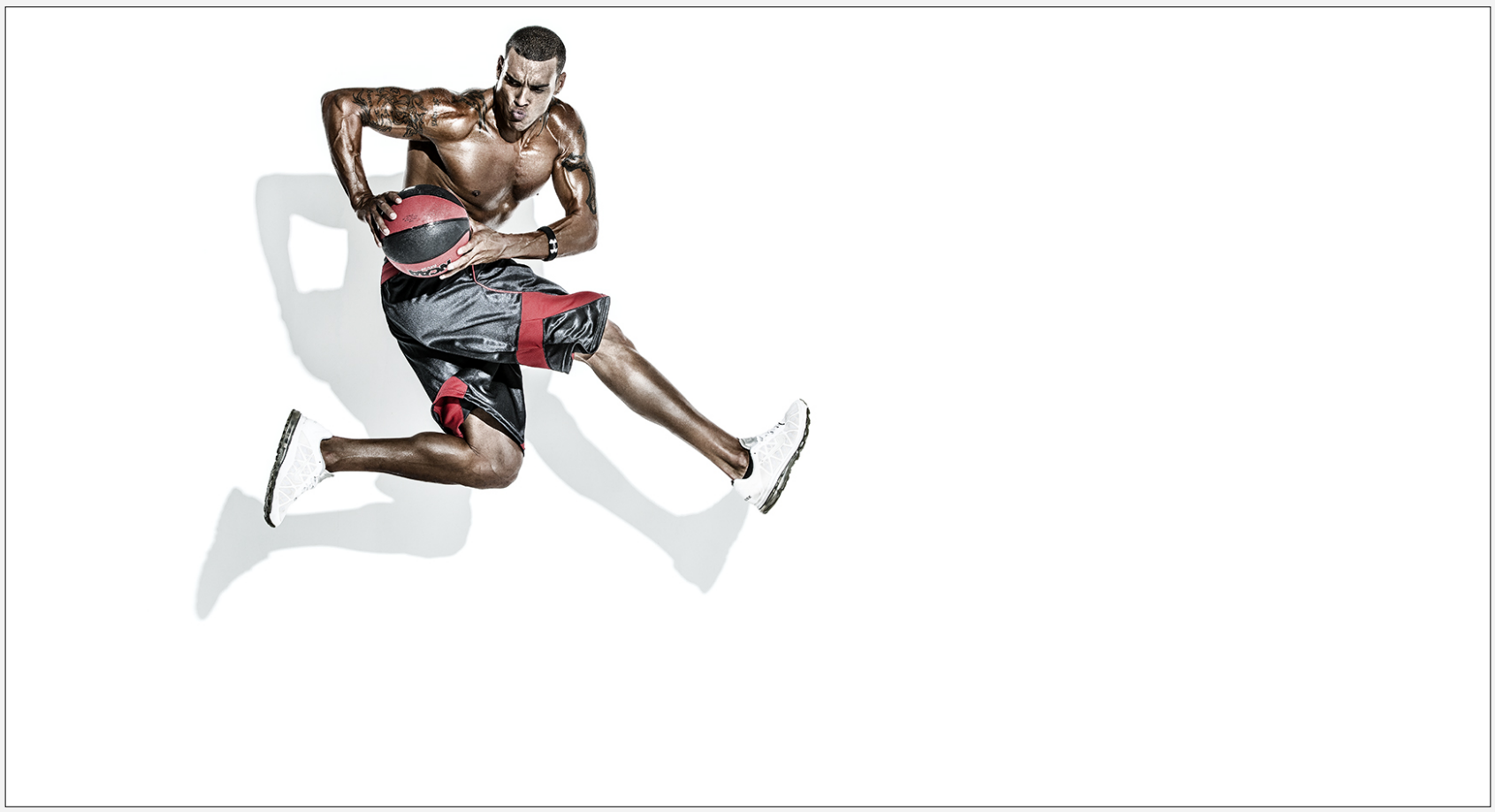
So there I am, standing in Weston's Cover with my digital camera, well over half a century since Edward created some of his iconic images. I am using the Canon 17mm Tilt-Shift lens, bracketing my exposures to create an HDR, and shifting my lens up and down in three positions to roughly create a 10mm angle of view when stitched together in Photoshop. The final image created with this approach is equivalent to a 126 degrees angle of view.

When Edward was shooting his 8x10 view camera, his choice of lenses was very limited by today's standards. This is only a guess, but the widest lens Edward had access to at that time would have been equivalent to somewhere around a 35mm lens (63-degree angle of view) in today's full-frame digital camera. I say this only to remind us that we have access to so many options today to help us create that it is mind-blowing. Again, we live in extraordinary times.

Above I have contrasted one of Edward's images again with the image I shot using my digital camera and the 17mm TS lens that day standing at Point Lobos.

Final Notes 2

Image Stabilization



A Quick Look at IS: With the technological advancements in recent years, the cameras and lenses we have access to today keep getting better and better. Image Stabilization lenses have been around for a while, but now we are finding IS technology in the camera bodies. Combining the two IS technologies can now give us amazing results with approximately eight stops of stabilization.

What does this mean? In the old days before IS, the general rule was as follows: take your focal length, let's say 100mm, to get what we would call an acceptable sharp image, you would set your shutter speed to 1/100th or above. However, I always felt this was pushing it, so I would not attempt to handhold a camera with a shutter speed less than 1/500th.
It is really easy to prove this now that we are shooting digital. It would be a good test for you to try.

You will notice in my BTS videos; I am shooting on a tripod around 98 percent of the time. As I stated earlier, camera shake or vibration is the single greatest degradation of image quality. So I still have an old-school mindset when it comes to handholding a camera, but with this new IS technology, I am rethinking my approach.

One last note on the topic of Image Stabilization: Let's say that you can successfully handhold your IS camera\lens combo at 1/4 of a second. You still have to consider that your subject may have movement, resulting in an unacceptable image. I often capture my portraits using a tripod at 1 second, but I have to make sure my subject is perfectly still.

It is now time to explore with your camera and lenses. Try something new and push your creative side a bit by experimenting with your lens choice. Tomorrow you can hang a new image on your wall that did not exist today.

To view more of Joel Grimes images, go to:
portfolio.joelgrimes.com

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joelgrimes.com